

COMPUTER WORKSHOP

Making a PC for your pocket

Do you find yourself wishing you could carry your PC around with you? Chris Finnamore explains how to turn a flash drive into a portable Windows XP installation

MojoPac can create a virtual Windows XP PC that runs within an existing host PC running Windows XP. The only restriction is that the host PC must be logged in with administrator privileges. You can install the MojoPac PC to any external USB2 storage device, but the kind of device you choose will affect the speed of the MojoPac PC and how many files and programs you can store on it.

The most portable device is a USB2 flash drive, but this will be slower and have less storage than a larger and heavier external hard disk. A hard disk-based MP3 player such as an iPod strikes a fair balance between portability, storage space and speed. You don't have to worry about losing files on the device, as you can set up MojoPac to run within a self-contained encrypted file. The installation program currently runs only on a Windows XP PC, and the MojoPac PC runs only on an XP host, but a Vista version is in development.

1 The MojoPac environment is password-protected, so only you can load up the MojoPac virtual PC, but the files on the external storage device are not. If you lost your device, anyone who found it could plug it into a PC and browse to its Documents and Settings folder to retrieve the MojoPac PC's documents. To get around this, you need to encrypt the external storage device using the free TrueCrypt program. Unfortunately, TrueCrypt will run only on a Windows XP PC with administrator privileges. If you want the maximum flexibility but unencrypted data, skip to Step 4.

Go to www.truecrypt.org and download the latest version. Make sure your external drive is plugged in. On your PC, extract all the files in the downloaded TrueCrypt Zip archive to a folder on your hard disk and run the setup program. In the first screen, click the Install button. You'll be asked if you want to read the beginner's guide, but click No then Exit.

TrueCrypt works by creating an encrypted file, which it mounts as a virtual disk when you type in the correct password. Create the encrypted file on your external disk. Run TrueCrypt, then click the Create Volume button. Click the Create a standard TrueCrypt volume radio button and click Next. Then click the Select File button, browse to your external disk and type in a name for the encrypted file, such as 'encrypted'. Click Save, then Next.

2 The next screen lets you choose which encryption algorithm you want to use. The default, AES, is approved by the US government, so should be fine for most people. Leave the default settings and click Next. You can now specify how large you want the encrypted volume to be. The encrypted volume can only be as large as the amount of free room on the external disk, minus 5MB for TrueCrypt's program files. Create at least a 1GB (1,024MB) volume to leave plenty of room for your MojoPac virtual PC, any programs you want to install and your documents. Select the MB radio button and type in the volume size in megabytes, then click Next. In the following screen, type in your password.

For the best security, use a long alphanumeric password, as a combination of letters and numbers is hard to crack with a brute force attack. Then click Next.

You'll now be shown the Volume Format screen. This formats only the virtual disk, contained within the encrypted file on your external disk, and not the external disk itself. Select your file system from the Filesystem box. The FAT file system will work with older versions of Windows, such as Windows 95 or 98, but supports partitions only up to 4GB. As you'll be using your MojoPac virtual PC only with Windows XP you should select NTFS, which supports larger disks and makes more efficient use of storage space. Click the Format button. TrueCrypt will create your virtual volume. When it's finished, click OK and then Exit.

3 Now set up your external drive as a standalone TrueCrypt disk. This copies the TrueCrypt files to the drive, so you can access it on any PC. Click Tools, then Traveller Disk Setup. In the new window, click the Browse button, select your external device and click OK. You should also set the drive to mount the encrypted volume automatically when you plug it in. Click the Auto-mount TrueCrypt volume button, then click Browse. Navigate to the encrypted file on your external disk, select it and click Open. Click Create. You now have an external disk with a standalone encrypted volume.

4 MojoPac will only run on a PC that has just one user logged in. If your current PC has more than one user logged in, save each user's work, log out and reboot the PC. The MojoPac installation program must run on a PC connected to the internet. Plug in your encrypted drive, select Mount TrueCrypt volume from Windows' autorun window and type in your TrueCrypt password. The encrypted file on the USB disk mounts as a disk drive, so make a note of its assigned drive letter. Then go to www.mojopac.com and click on the For Individuals link, then click on Download Now.

There are three versions of MojoPac: free, Deluxe with technical support and Enterprise, which is licensed for commercial use. Click the button to download the free version and click Download in the next screen.

INTRODUCTION

In *Computer Workshop*, *Shopper 239*, we showed you how to create a bootable Windows XP CD. The result was great for saving your files and documents and for fixing Windows problems. However, it runs fairly slowly and you cannot save files to a CD.

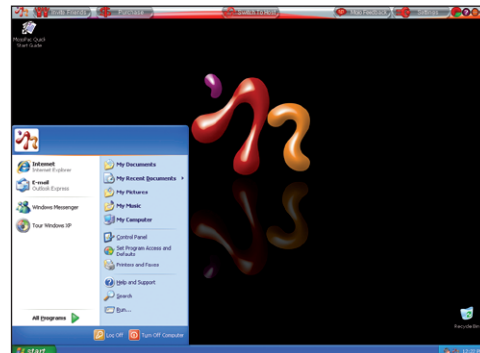
You can get a more flexible Windows XP installation that runs from a flash drive, external hard disk or even an MP3 player if you have a host Windows XP PC on which to run it. The guest operating system can run most popular applications and high-end games, and runs on the host operating system without affecting it in any way.

In this month's *Computer Workshop* we'll show you how to make the ultimate ultra-portable PC using the free MojoPac (www.mojopac.com).

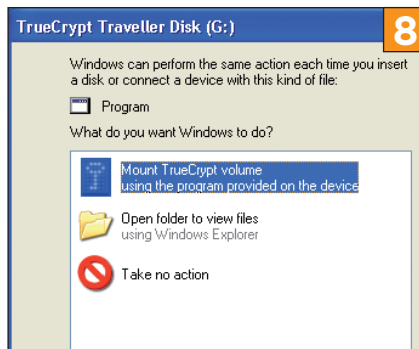
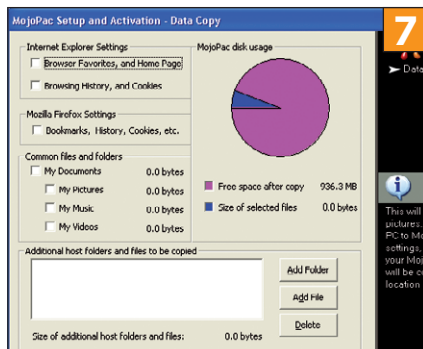
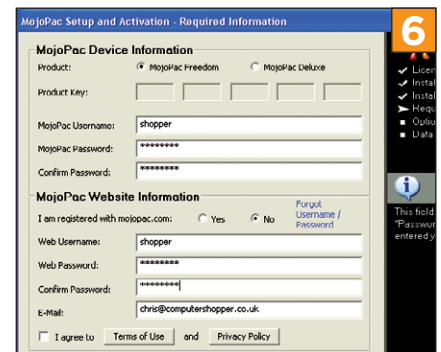
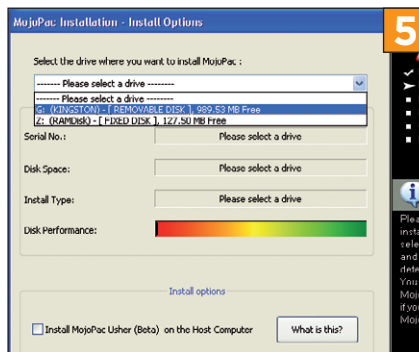
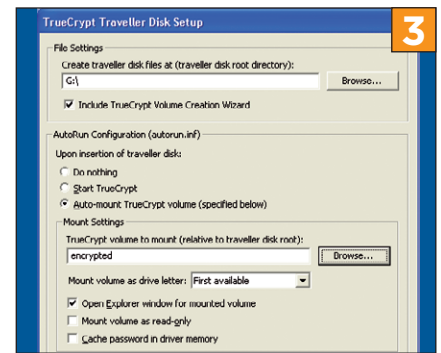
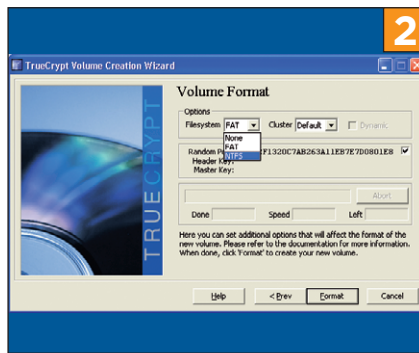
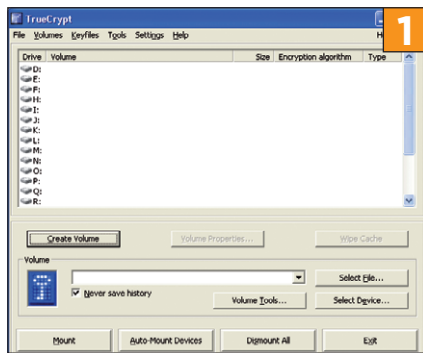
Chris Finnamore
Labs Manager



chris@computershopper.co.uk



▲ The final result: a MojoPac virtual Windows PC that is running on a host PC



Either run the file, or save it to your desktop and run it. In the installation screen, click the box to confirm the software is for non-commercial use, then make sure the On an iPod or portable USB drive button is selected. Then click I Agree.

5 In the next screen, select which drive will contain your MojoPac virtual PC. Select your drive from the drop-down box at the top. MojoPac will analyse the disk and let you know if it has enough space for a MojoPac installation. It will also check how fast the removable disk is, and display the result on a scale. If you have more than one external device available for a MojoPac installation, you should load the installer with each to see which is the fastest.

At the bottom of the first installation screen there's the option to install the beta of MojoPac Usher on the host PC. This lets MojoPac run on a PC that isn't logged in with administrator privileges. Select this option only if you decided you didn't want encryption at Step 1.

6 When you've set the options, click Next again. MojoPac installs on your external device. Click Finish once it's done. You'll then be shown the Setup and Activation screen. Here you enter the logon information for the MojoPac virtual PC, so only you can use it. Leave the MojoPac Freedom radio button selected, as this is the free version of MojoPac. Type in a username and password for the device, a username and password for the MojoPac website

and an email address. Your username can be the same for the device and the website. Click Next.

The next screen is similar to the one shown during Windows Setup, which lets you specify your name and your company's name, as well as the computer's name. Programs such as Office use the name and company name information in documents, so fill these in. You can add a hint to help you remember your password.

7 The installer now gives you the option to import settings and documents from your current PC to the MojoPac virtual PC. Import favourites, history and bookmarks from Internet Explorer or Firefox by ticking the boxes. You can add files and folders from your current PC, which are copied to the external device and accessible from within the MojoPac virtual PC. There are tick boxes for your Documents, Pictures, Music and Videos folders, and you can also add folders and files manually using the Add Folder and Add File buttons. The installer scans any files and folders you add, and displays how much space is left on the external device in the pie chart in the top right. If you run out of room, select files to remove from the MojoPac installation in the box at the bottom of the window and click Delete. When you have selected all the settings and files you need or have room for, click Finish.

8 Your MojoPac virtual PC is now ready. Although you needed to be connected to the internet to install the program, the host PC

doesn't need to be online to run the MojoPac environment. When you plug the external device into a host PC, select Mount TrueCrypt volume from Windows' autorun window and type in your TrueCrypt password. The encrypted file on the USB disk will mount as a disk drive and open a window showing its contents. Double-click on the Start program and type in your password to run the MojoPac virtual PC environment.

9 Once MojoPac is loaded, you'll see a standard Windows XP desktop. This will have the bare minimum of programs installed, such as Internet Explorer and Outlook Express, but you can install new applications from CD or download and install programs from the internet, just as you would with a normal Windows XP PC. MojoPac uses the encrypted volume on the external device as the virtual PC's hard disk, so any programs you install or documents you save are saved to the external device, not the host PC's hard disk; MojoPac keeps itself completely separate. If you need to switch back to the host PC at any time, move the cursor to the top of the screen to make the MojoPac bar appear, then click Switch to Host.

Before you remove the USB disk, make sure you unmount the TrueCrypt encrypted volume. To do this, close MojoPac, then on the host PC go into My Computer and right-click on the TrueCrypt Traveller Disk and select Dismount all TrueCrypt volumes. Then wait around five seconds before removing the disk. **CS**